

Appropriations for FY2000: Energy and Water Development

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Summary

The Energy and Water Development appropriations bill includes funding for civil projects of the Army Corps of Engineers, the Department of the Interior's Bureau of Reclamation (BuRec), most of the Department of Energy (DOE), and a number of independent agencies. The Administration requested \$22 billion for these programs for FY2000. The House and Senate approved \$21.3 billion.

Low allocations under Section 302 (b) of the Budget Act created difficulties for Appropriations Committees in both Houses. The Senate Committee responded by cutting water projects for the Corps and BuRec, and keeping DOE funding about at the requested level. The House Appropriations Committee increased money for the Corps and cut about \$1.5 billion from DOE, much of it in the weapons program. The Senate passed the bill (S. 1186) June 16, 1999. The House passed its version of the bill (H.R. 2605) July 27, 1999. The House-Senate Conference Committee reported out its agreement on September 24, 1999, with some of the Senate cuts to the Corps, and some of the House cuts to DOE, restored. The bill was signed by the President on September 29, 1999 (P.L. 106-60).

Other key issues involving Energy and Water Development appropriations programs included:

- Policy issues related to wetlands regulatory programs involving the Corps;
- the Bureau of Reclamation's controversial Animas-La Plata project in Colorado, a large irrigation and tribal projects with likely controversial environmental impacts, for which the Administration requested no new appropriations in FY2000;
- a pending decision by DOE on the electrometallurgical treatment of nuclear spent fuel for storage and disposal, a process that opponents contend raises nuclear nonproliferation concerns;
- proposed funding increases for DOE's accelerated computer simulation efforts to simulate nuclear weapons explosions and other important aspects of the nuclear weapons stockpile;
- increased funding for DOE's Nuclear Cities Initiative in Russia, to find alternative work for unemployed Russian nuclear weapons designers;
- NRC's plans to overhaul its regulatory system for nuclear power plant safety, as urged by the House and Senate Appropriations Committees;
- The ongoing controversy over interim civilian nuclear waste storage; and
- DOE's "privatization" program for nuclear waste cleanup.

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Appropriations are one part of a complex federal budget process that includes budget resolutions, appropriations (regular, supplemental, and continuing) bills, rescissions, and budget reconciliation bills. The process begins with the President's budget request and is bounded by the rules of the House and Senate, the Congressional Budget and Impoundment Control Act of 1974 (as amended), the Budget Enforcement Act of 1990, and current program authorizations.

This report is a guide to one of the 13 regular appropriations bills that Congress passes each year. It is designed to supplement the information provided by the House and Senate Appropriations Subcommittees on Energy and Water Development Appropriations. It summarizes the current legislative status of the bill, its scope, major issues, funding levels, and related legislative activity. The report lists the key CRS staff relevant to the issues covered and related CRS products.

Updates of this report are prepared as soon as possible after major legislative developments, especially following legislative action in the committees and on the floor of the House and Senate.

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Most Recent Developments

The President submitted his budget for FY2000 on February 1, 1999. In it was \$22.0 billion for energy and water development programs. The request was \$800 million larger than the FY1999 appropriation of \$21.2 billion. The Senate Subcommittee marked up the bill, S. 1186, on May 25. As reported out by the full Appropriations Committee May 27 (S.Rept. 106-58), the bill's appropriation totaled \$21.7 billion. The Senate passed S. 1186 on June 16. The House Appropriations Committee reported out a \$20.4 billion bill on July 20. The House passed the bill (H.R. 2605) July 27. House-Senate Conference reached an agreement to spend \$21.3 billion (including scorekeeping adjustments of \$450 million) September 24. The bill was signed (P.L. 106-60) by the President September 29, 1999.

Status

Table 1. Status of Energy and Water Appropriations, FY2000

Subcommittee Markup		House Report	House Passage	Senate Report	Senate Passage	Conf. Report	Conference Report Approval		Public Law
							House	Senate	
7/15	5/25	106-253	7/27 H.R. 2605	S.Rept. 106-58	6/16 S. 1186	106-336	9/27	9/28	9/29 106-60

Overview

The Energy and Water Development appropriations bill includes funding for civil projects of the Army Corps of Engineers, the Department of the Interior's Bureau of Reclamation, most of the Department of Energy (DOE), and a number of independent agencies, including the Tennessee Valley Authority (TVA) and the Nuclear Regulatory Commission (NRC). The Administration

requested \$22 billion for these programs for FY2000, compared with \$21.2 billion appropriated for FY1999.

As with other FY2000 appropriations bills, the Energy and Water Subcommittees had difficulty meeting the spending allocations assigned them under Section 302 (b) of the Budget Act. In the Senate, the allocation was \$21.28 billion; the House limit originally was significantly lower at \$19.39 billion, but by the time the House bill was reported out by the Appropriations Committee the allowance was increased about \$800 million.

For the Corps of Engineers, the Administration requested \$3.9 billion in FY2000, about the same as appropriated in FY1999. The Senate bill, S. 1186, would have reduced this figure to \$3.76 billion, with most of the reductions in the construction budget. The House bill (H.R. 2605) recommended raising the Corps appropriation to \$4.19 billion. The Bureau of Reclamation would have received an increase of more than 10% (excluding offsets), to \$857 million. The Senate bill would have reduced this to \$761 million, below the FY1999 level. The House recommendation was \$785 million. The House and Senate Conference settled on \$4.14 billion for the Corps of Engineers and \$769.3 million for the Bureau of Reclamation.

DOE programs funded by the Senate bill would have risen about 4% to \$17.1 billion, about what the Administration requested. The major activities in the DOE budget are research and development on energy and general science, environmental cleanup, and nuclear weapons programs. The House would have reduced funding for these programs to \$15.6 billion, with most of the cuts coming in the cleanup and weapons programs. The House and Senate Conference agreed to fund DOE programs at \$16.6 billion. The remaining \$1.2 billion of DOE's FY2000 net appropriations request (for fossil fuels programs, energy efficiency, and energy statistics) is included in the Interior and Related Agencies appropriations bill.

Table 2. Energy and Water Development Appropriations, FY1993 to FY2000

(budget authority in billions of current dollars)*

FY93	FY94	FY95	FY96	FY97	FY98	FY99	FY2000
22.2	22.3	20.7	19.3	20.0	21.2	21.2	21.3

*These figures represent current dollars, exclude permanent budget authorities, and reflect rescissions.

Table 2 includes FY2000 budget request figures and budget totals for energy and water appropriations enacted for FY1993 to FY1999. Tables 3-7 provide budget details for Title I (Corps of Engineers), Title II (Department of the Interior), Title III (Department of Energy) and Title IV (independent agencies) for FY1998 - FY2000.

Title I: Corps of Engineers

The Clinton Administration was seeking a slight increase for civil projects of the Army Corps of Engineers in FY2000, in contrast to the substantial cuts proposed during the previous two budget cycles that were largely rejected by Congress. The \$3.9 billion request would have funded 19 new construction starts involving port improvements, navigation, flood control, and environmental projects. The Senate approved \$3.7 billion, while the House supported \$4.2 billion. The conference agreement funds the Corps of Engineers for \$4.14 billion.

Major initiatives in the Corps request included a proposed \$951 million Harbor Services Fund for port improvements and harbor maintenance, and \$25 million for the "Challenge 21" river

restoration and flood mitigation program. A \$10 million increase was proposed for the Formerly Utilized Sites Remedial Action Program (FUSRAP), which was transferred from DOE in FY1998. The program cleans up contamination at old industrial sites that processed nuclear materials for defense purposes.

Table 3. Energy and Water Development Appropriations. Title I: Corps of Engineers
(in millions of dollars)

Program	FY1998	FY1999	FY2000 Request	H.R. 2605	S. 1186	P.L. 106-60
Investigations	156.8	161.7	135.0	159.0	125.5	162.0
Construction	1,473.4	1,429.9	1,240.0	1,412.6	1,113.2	1,400.7
Flood Control, Mississippi River	296.2	321.1	280.0	313.3	315.6	309.4
Operation and Maintenance	1,740.0	1,653.3	1,836.0	1,888.5	1,790.0	1853.6
Regulatory	106.0	106.0	117.0	117.0	115.0	117.0
Flood Control and Coastal Emergencies	4.0	0	0		0	0
General Expenses	148.0	148.0	148.0	148.0	151.0	149.5
FUSRAP	140.0	140.0	150.0	150.0	150.0	150.0
Total	4,169.6	3,860.0	3,906.0	4,188.4	3,760.3	4,142.2

Key Policy Issues—Corps of Engineers

Funding for Corps of Engineers civil programs is often a contentious issue between the Administration and the Congress, with final appropriations bills typically funding more projects than requested. For FY1998, for example, the Congress added \$270 million (7%) to the \$3.63 billion requested by the Administration. Similarly, the FY1999 bill as passed included a total of \$3.86 billion for the Corps, \$638 million (20%) more than requested.

The Administration's FY2000 Corps request was somewhat less controversial. At \$3.9 billion it was slightly above the last year's appropriation, and it provided \$80 million for 19 new construction starts (including numerous port improvements, navigation, flood control and environmental projects) and the proposed Challenge 21 River Restoration and Flood Mitigation initiative at \$25 million.

A newly-proposed Harbor Services Fund would have provided for both port improvements and harbor maintenance—\$693 million requested under the operation and maintenance account, and \$258 million requested for construction. The Harbor Services Fund would have replaced the existing Harbor Maintenance Trust Fund with a new fund from a proposed Harbor Services User Fee (which would replace the existing Harbor Maintenance Tax, part of which was declared unconstitutional by the Supreme Court in 1998).

The Senate bill reduced Corps funding by more than \$200 million below the Administration's request. Most of the cuts would have come in the construction budget. The Senate Appropriations Committee report said it was attempting to provide continuity of previously funded construction with specified "stretching out" in contracting or completion schedules. The Senate also declined

to initiate the Challenge 21 proposal; nor did it modify harbor maintenance through the appropriations language.

The House bill increased the Corps funding by more than \$280 million above the Administration's request, including increases in most of the Corps programs. However, the House also declined to initiate the Challenge 21 proposal and did not modify harbor maintenance through appropriations language.

Policy issues related to wetlands regulatory programs were addressed in the final bill. As approved by the House on July 27, the bill included two such provisions. One would require the Corps to modify a recently-established administrative appeals process for certain Corps regulatory decisions to allow unsuccessful appellants to directly challenge the decisions in court. The Administration supported creation of an administrative appeals process but opposed this provision, saying that it would impose excessive burdens on the Corps and the courts. Landowner and developer groups favored it. The conference report (H.Rept. 106-336) deleted the House language that would have made certain administrative decisions appealable to federal courts prior to a final permit decision. It included Senate language providing that \$5 million in additional funds for the Corps' regulatory program in FY2000 shall be used to establish an administrative process for appeals of jurisdictional determinations by the Corps (i.e., whether an area contains wetlands that are subject to Corps permitting requirements).

The House bill also included a provision to require the Corps to submit a study on the workload impact and compliance costs of replacement permits for "nationwide permit 26" (NWP 26) 30 days prior to publication of the final permits, but no later than December 30, 1999. The NWP 26 program permits certain activities to fill wetlands of less than 3 acres and has been highly controversial with environmental and conservation groups. The Corps has proposed program changes to restrict use of NWP 26 which are due to take effect by December 30, 1999. Landowner and developer groups supported the House-passed provision, but the Administration opposed it, saying that the study was unnecessary and, even with a Dec. 30 deadline, would increase wetlands loss in the nation by delaying issuance of replacement permits. The conference report on H.R. 2605 modified the House-passed language by directing the Corps to study the workload impacts and costs of compliance of proposed replacement permits, but dropped language that would have required submission of a report to Congress before publication of final permits. (For more information, see CRS Issue Brief IB97014, *Wetland Issues*, and CRS Report 97-223, *Nationwide Permits for Wetlands Projects: Permit 26 and Other Issues and Controversies*.)

Title II: Department of the Interior

For the Department of the Interior, the Energy and Water Development bill provides funding for the Bureau of Reclamation and the Central Utah Project Completion Account. The Administration's FY2000 request for the Bureau of Reclamation was up more than 10% from the FY1999 appropriation (excluding a \$37 million offset involving the Central Valley Project Restoration Fund). The Administration proposed and the final bill included no new funding for the controversial Animas-La Plata water supply project in Colorado, and instead proposed allocating \$3 million (with a recommendation of \$2 million) from previous appropriations for preconstruction activities.

Table 4. Energy and Water Development Appropriations. Title II: Central Utah Project Completion Account
(in millions of dollars)

Program	FY1998	FY1999	FY2000 Request	H.R. 2605	S. 1186	P.L. 106-60
Central Utah project construction and oversight	24.5	27.0	22.3	21.7	22.3	23.9
Mitigation and conservation activities*	16.6	15.5	17.1	15.5	17.0	15.5
Total, Central Utah Project	41.2	42.5	39.4	37.2	39.4	39.4

* Includes funds available for Utah Reclamation Mitigation and Conservation Commission activities and \$5 million for the contribution authorized by §402(b)(2) of the Central Utah Project Completion Act (P.L. 102-575).

Table 5. Energy and Water Development Appropriations. Title II: Bureau of Reclamation
(in millions of dollars)

Program	FY1998	FY1999	FY2000 Request	H.R. 2605	S. 1186	P.L. 106-60
Water and related resources	698.9	617.0*	652.8	604.9	612.5	607.9
California Bay-Delta (CALFED)	85.0	75.0	95.0	75.0	50.0	60.0
Loan program account	10.4	8.4	12.4	12.4	12.4	12.4
General Admin. Expenses	47.6	47.0	49.0	45.0	49.0	47
Central Valley Project (CVP) Restoration Fund	24.6	33.1	47.3	47.3	37.3	42
Gross Current Authority	866.5	780.5	856.6	784.7	761.2	769.3
Colorado River Dam Fund (transfer current authority to WAPA)	(2.7)	0	0	0	0	0
CVP Restoration Fund Offset	(25.7)	**	(37.1)	**	**	**
Net Current Authority	842.9	780.5	819.5	821.9	761.2	769.3

* Does not reflect appropriations derived from transfer of \$25.8 million from the Working Capital Fund, but does include \$1.5 million in supplemental appropriations (P.L. 106-31).

** The Office of Management and Budget and the Congressional Budget Office disagree as to whether there is an offset for this fund.

Background on Reclamation Policy

Most of the large dams and water diversion structures in the West were built by, or with the assistance of, the Bureau of Reclamation (Bureau). Whereas the Corps built hundreds of flood control and navigation projects, the Bureau's mission was to develop water supplies and to reclaim arid lands in the West, primarily for irrigation. Today, the Bureau manages more than 600 dams in 17 western states, providing water to approximately 10 million acres of farmland and 31 million people.

The Bureau has undergone many changes in the last 15 years, turning from largely a dam construction agency to a self-described water resource management agency. The agency describes the “intent” of its programs and projects as follows:

- to operate and maintain all facilities in a safe, efficient, economical, and reliable manner;
- to sustain the health and integrity of ecosystems while addressing the water demands of a growing west; and
- to assist states, tribal governments, and local communities in solving contemporary and future water and related resource problems in an environmentally, socially, and fiscally sound manner.

In practice, however, the agency is limited in how it can address new demands and new priorities because of numerous federal, state and local statutes, compacts, and existing contracts, which together govern the delivery of water to project users. Consequently, any proposal to change Bureau water allocation or water management policies often becomes difficult to implement and extremely controversial.

Key Policy Issues—Bureau of Reclamation

The Administration requested an appropriation of \$856.6 million for the Bureau for FY2000 (gross current budget authority), approximately \$80 million more than enacted for FY1999 (excluding the \$37.1 million offset to the CVP Restoration Fund). The Senate bill included \$761.2 million, \$95.4 million less than requested and \$19.3 million less than enacted for FY1999 (excluding offsets). Appropriations for water projects were recommended to be \$40.4 million less than requested, with reductions for many projects and increases for a few. The House bill included \$784.7 million, \$71.9 million less than requested, but \$2.7 million more than enacted for FY1999 (excluding offsets) and \$23.5 million more than in the Senate bill. The final bill appropriated \$769.3 million for FY2000, approximately \$85 million less than requested and \$11 million more than enacted for FY1999.

One major difference between the House and Senate bills was funding for the California Bay-Delta Ecosystem Restoration program (CALFED). (Funding for CALFED is requested in the Bureau’s budget, but the appropriation will be allocated among several federal agencies. The majority of funding is expected to go to the Bureau and the Corps.) The FY2000 request for CALFED is \$95.0 million, \$43.3 million less than the FY1999 request, but \$20 million more than enacted for FY1999. The Senate bill figure is \$50 million for FY2000, \$45 million less than requested and \$25 million less than enacted for FY1999. In addition, the Senate bill has \$37.3 million for the Central Valley Project Restoration Fund, \$4.2 million more than enacted for FY1999, but \$10 million less than the Administration requested for FY2000. The House Appropriations Committee recommended \$75.0 million for CALFED, matching the FY1999 funding, but \$20.0 million less than requested for FY2000 and \$25.0 million more than recommended in the Senate. The House Committee also recommended the full amount requested for the Central Valley Project Restoration fund, \$47.3 million. P.L. 106-60 appropriates \$60 million for CALFED, \$15 million less than requested, and \$42 million for the Central Valley Project Restoration fund (\$5.3 million less than requested).

Title III: Department of Energy

The Energy and Water Development bill includes all but \$1.2 billion of DOE’s \$17.8 billion FY2000 net appropriations request (including about \$700 million in offsets). Major DOE

activities in the bill include research and development on renewable energy and nuclear power, general science, environmental cleanup, and nuclear weapons programs. The Administration's FY2000 request would boost DOE programs in the bill by about 4% to \$17.1 billion. The remainder of DOE's FY2000 budget request—for fossil fuels programs, energy efficiency, and energy statistics—is included in the Interior and Related Agencies appropriations bill.

Table 6. Energy and Water Development Appropriations. Title III: Department of Energy

(in millions of dollars)

Program	FY1998	FY1999	FY2000 Request	H.R. 2605	S. 1186	P.L. 106-60
Energy Supply R&D						
Solar and Renewable	346.3	365.9	446.0	356.5	353.9	362.2
Nuclear Energy	243.0	284.0	269.3	265.7	287.7	288.7
Fusion Energy (see General Sci. below)	232.0	—	—	-	—	-
Other	171.2	175.1	173.6	46.4	168.6	48.6
Subtotal	992.5	825.0	889.0	638.6	810.2	699.5
adjustments	(85.7)	(98)	(52.9)	(91.0)	(94.8)	(60.4)
Subtotal	906.8	727.0	836.1	577.6	715.4	639.1
Uranium Enrichment						
Uranium Enrichment D&D	220.2	220.2	240.2	240.2	200.0	250.9
General Science						
High Energy Physics	680.0	696.5	697.0	715.5	691.0	707.9
Nuclear Physics	320.9	335.1	342.9	357.9	330.0	352.0
Basic Energy Sciences	668.2	809.1	888.1	736.0	854.5	783.1
Bio. & Env. R&D	406.7	443.6	411.2	406.2	429.7	441.5
Fusion (see energy supply R&D)	—	223.3	222.6	250.0	220.6	250.0
Other	255.0	175.3	74.7	253.0	199.3	265.4
Subtotal	2,235.7	2,682.9	2,835.4	2,718.6	2,725.1	2,799.9
Environ. Res. & Waste Mgmt., non-defense	497.0	431.2	330.9	327.2	327.9	333.6
Defense Environmental Restoration and Waste Management	4,379.5	4,310.3	4,505.7	4,157.8	4,551.7	4,484.3
Defense Facilities Closure Projects	890.8	1,038.2	1,054.5	1,054.5	1,069.5	1,064.5
Environmental Restoration Privatization	200.0	228.4	228.0	228.0	228.0	189.0
National Security (Weapons)	4,146.7	4,400.0	4,531.0	4,000.0	4,609.8	4,443.9

Program	FY1998	FY1999	FY2000 Request	H.R. 2605	S. 1186	P.L. 106-60
Other National Security	1,638.8	1,696.7	1,792.0	1,651.8	1,872.0	1,722.4
Departmental Admin. (net)	87.4	63.9	123.5	86.9	102.5	99.5
Office of Inspector General	27.5	29.0	30.0	30.0	29.0	29.5
Power Marketing Admin.						
Alaska	13.5	0	0	0	0	0
Bonneville (non-add, capital obligations)	253.0	—	(352.0)	(352.0)	(352.0)	(352.0)
Southeastern (prior year balance for FY2000)	12.2	7.5	4.7	0	39.6	39.6
Southwestern	25.2	26.0	27.9	27.9	28.0	28.0
Western	189.0	203.0	171.5	171.5	223.6	193.4
Colorado River Basin (net)	-16.1	—	-21.0	0	—	—
Falcon & Armistad O&M	1.0	1.0	1.3	1.3	1.3	1.3
FERC (revenues)	165.6 (165.6)	167.5 (167.5)	179.0 (179.9)	175.0 (175.0)	170.0 (170.0)	175.0 (175)
Nuclear Waste	350.0	358.0	370.0	281.0	354.5	352.0
Adjustments	1.6	—	-5.5	-1.1		
Total, Title III	15,943.1	16,423.3	17,062.0	15,553.5	17,078.4	16,670.5

Key Policy Issues—Department of Energy

Research and Development Programs

For FY2000, DOE requested \$3.48 billion for civilian R&D within the jurisdiction of this bill, an increase of 5.4% over the comparable FY1999 appropriation. For national security programs, DOE requested \$3.40 billion for R&D, 4.7% above FY1999. While not as large as the changes from FY1998 to FY1999, 7.5% and 8.6% respectively, requested increases for FY2000 were well above the year-to-year average received by DOE for all R&D in the 1990s.

Renewable Energy

“The solar and renewable energy program is a major component of the Administration’s activities to address global climate change,” according to the Appendix to the U.S. Government’s FY2000 Budget (p. 397). In accordance with that policy, DOE proposed to boost solar and renewables funding to \$398.9 million (net)—an increase of \$62.9 million (19%) over the FY1999 level. Within DOE’s Office of Energy Efficiency and Renewable Energy (EERE), this includes \$21.1 million more for photovoltaics, \$19.2 million more for biomass, \$10.8 million more for wind, and \$10 million more for solar program support. Also, DOE’s request sought \$47.1 million for renewable energy-related research programs under the Office of Science (OS).

In passing S. 1186 on June 16, the Senate voted to reject most of the requested increase, recommending \$353.9 million for DOE's renewable energy programs. A Jeffords floor amendment (No. 648) to increase funding by \$70 million failed due to a technical flaw and a parliamentary maneuver to block its correction. The Senate-approved figure covers \$306.8 million for EERE programs (including \$33.5 million for electric energy systems and storage) and \$47.1 million for OS programs. The figure for EERE is \$92.1 million less than the request and \$11.2 million less than the FY1999 appropriation.

The House Appropriations Committee also voted to reject the Administration-proposed increase. It recommended \$326.5 million for FY2000, including \$279.4 million for EERE programs (including \$38.0 million for electric energy systems and storage) and \$47.1 million for OS programs. The figure for EERE is \$119.6 million, or 27%, less than the request; including \$26.3 million less for photovoltaics, \$21.6 million less for biomass, \$20.6 million less for wind, and \$8 million less for solar program support. Also, the Committee recommendation is \$39.5 million, or 11%, less than the FY1999 appropriation. In a July 20 letter to committee leaders, the Office of Management and Budget expressed strong opposition to the bill as approved by the House Appropriations Committee, partly due to the cuts proposed for renewable energy. The House-passed bill included a floor amendment (#350) that added \$30 million more for renewable energy that was offset by a reduction for DOE contractor travel expenses.

The Conference-approved total of \$362.2 million covers \$315.1 million for EERE (including \$38.4 million for Electric Energy Systems and Storage) and \$47.1 million for DOE's OS Programs. The figure for EERE is \$84.3 million, or 21%, less than the request and it is \$3.4 million, or 1%, less than the FY1999 appropriation. Compared to the request, the Conference figure seeks \$26.3 million less for Photovoltaics, \$20.4 million less for Biomass, \$12.6 million less for Wind, and \$5 million less for Solar Program Support.

A new \$1 million Electricity Restructuring Program included in the bill would provide technical assessments of policy concepts and programs such as renewable portfolio standards (RPS), public benefits funds, consumer information and disclosure provisions, "green power" marketing programs, and distributed generation concepts. Also, a new \$1 million Competitive Solicitation Program is to support cost-shared field verification projects, including data on generation and system outages, to address market barriers arising from a lack of cost and operational information.

Nuclear Energy

For nuclear energy programs—including research and development, space power systems, closing of surplus facilities, and uranium programs—DOE was appropriated \$288.7 million for FY2000, a boost of nearly \$20 million from the Administration's request. Funding was increased for a program begun in FY1999 to support innovative nuclear energy research projects, the "nuclear energy research initiative" (NERI), from \$19 million to \$22.5 million. The energy and water bill also provides DOE's full request—\$5 million—for a separate research program rejected by Congress in FY1999 to improve the economic competitiveness of existing nuclear power plants, called "nuclear energy plant optimization" (NEPO).

Funding for NEPO was identified by DOE as part of the Administration's "Climate Change Technology Initiative." To be matched by industry, the NEPO funding would focus on research to extend the operating lives of existing reactors and to allow them to operate more efficiently and reliably. Because nuclear plants directly emit no carbon dioxide, greater production of nuclear power from existing reactors could help the United States reduce its total "greenhouse gas" emissions. "Continued operation of existing nuclear power plants avoids over 620 million tons of

carbon dioxide annually,” according to the DOE budget justification. However, opponents have criticized DOE’s nuclear energy research programs as providing wasteful subsidies to a failing industry.

Controversy has also been generated by the “electrometallurgical treatment” of DOE spent fuel, a process in which metal fuel is melted and highly radioactive isotopes are electrochemically separated from uranium and plutonium. DOE contends that such treatment may be the best way to render certain types of spent fuel—particularly from the closed Experimental Breeder Reactor II in Idaho—safe for long-term storage and disposal. DOE received \$40 million in FY1999 to complete a demonstration program for the technology.

According to the DOE budget justification, a decision will be made in FY2000 on whether to proceed with a full-scale electrometallurgical treatment program, and \$10.7 million was requested to maintain the necessary facilities in case the option is pursued. The House Appropriations Committee report specified that \$40 million under nuclear facility “termination costs” be provided for the program in FY2000, including \$20 million for demonstration activities. The Conference Report boosts “termination costs” by \$15 million over the Administration request but does not specify how much should be spent for electrometallurgical treatment.

Opponents contend that such treatment is unnecessary and that the process could be used for separating plutonium to make nuclear weapons. They note that the process uses much of the same technology and equipment developed for the plutonium-fueled Integral Fast Reactor, or Advanced Liquid Metal Reactor, which was canceled by Congress in 1993 partly because of concerns about nuclear weapons proliferation.

The final bill also includes \$9 million under the category “civilian research and development” for research into the use of particle accelerators to transmute long-lived elements in radioactive waste into shorter-lived elements for safer disposal.

Science

For the Science programs, DOE requested an increase of \$116.9 million over FY1999, or about 4.3%. Most of this increase consists of two items: \$84 million (65%) for continued construction of the Spallation Neutron Source (SNS) and \$70 million for the scientific simulation initiative (SSI). The former is to be a major user facility providing a new source of neutrons for a wide variety of research goals. The latter is designed to develop very high speed computational capability for use in simulating complex physical and biomedical problems such as global climate change and genome structure and to carry out such simulations. While both of these efforts have much support in the scientific community, the extent of the increase requested for these two activities would be to leave funding for the rest of the DOE Science research somewhat lower than FY1999.

The Senate appropriated \$2.73 billion for Science for FY2000, 3.7% below the request, but 0.4% above the FY1999 level. The Senate approved \$169.0 million for SNS construction, which, it stated, would amount to full funding given delays that have taken place in that project. The Senate did not, however, provide any funding for the SSI project. Most of the other programs would receive small reduction, which, the Senate noted, were primarily the result of constrained budget resources.

The House recommended \$2.72 billion for Science for FY2000, 4.5% below the request and nearly equal to the FY1999 level. Included in the House bill is \$51 million in contractor travel and other directed reductions. The House bill increases funding for High Energy Physics and Nuclear Physics over the request. It did not provide any funding for the SSI program arguing that

it could not support two supercomputer development programs within DOE given the existence of the Accelerated Strategic Computing Initiative (ASCI) within the DOE weapons activities. The House also provided \$50 million for SNS construction, stating that project management problems needed to be resolved before full construction funding could be provided. The House bill directs DOE to meet a series of conditions to demonstrate such resolution.

The final appropriations bill provides \$2.80 billion for Science programs for FY2000, a reduction of 1.1% from the request but 3.0% above the FY1999 level. This amount includes \$31.8 million in general reductions for contractor travel and other purposes. The conferees provided \$117.9 million for SNS construction but no funds for the SSI. The report contained language expressing strong support for the DOE supercomputer programs—both civilian and defense. The conferees, however, did urge DOE to submit a comprehensive plan for a civilian supercomputing program. Congress is providing \$250 million for the Fusion Energy Science program, an increase of nearly \$28 million over the request. The conferees expressed their approval of the program's reviews recently completed by the Secretary of Energy's Advisory Board and the Fusion Energy Science Advisory Committee.

Stockpile Stewardship

The primary element of DOE's national security R&D request is the stockpile stewardship program, aimed at developing the science and technology to maintain the nation's nuclear weapons stockpile in the absence of nuclear testing. The main focus of the program is the development of computational capabilities that can simulate weapons explosions and perform other important computations. For FY2000, DOE requested \$542.5 million for this element, the Accelerated Strategic Computing Initiative (ASCI)/Stockpile Computing. That sum is 23.7% of the entire stockpile stewardship request, and is 12.2% above the FY1999 appropriation.

The Senate appropriated \$2.352 billion for Stockpile Stewardship, 2.9% above the request and 10.6% above the FY1999 level. The Senate repeated its concern that DOE is not requesting sufficient funding for this program. It considers Stockpile Stewardship to be "critically important" particularly in view of the cessation of underground testing. The Senate directed DOE to take steps to improve management of the weapons activities in order to operate effectively in the restricted budget environment. The Senate also noted its concern with the rate of growth of the ASCI project, but it did provide DOE with its full request for the project. Further, the Senate commended DOE on its achievements so far and recommended that the project speed up to reach the 100 teraflop goal. A set of strategic actions now under study by DOE was noted by the Senate which approved an additional \$35 million to the core Stockpile Stewardship program to begin those actions. The Senate also provided an additional \$10 million for the Inertial Confinement Fusion program to assist the National Ignition Facility (NIF) project to avoid delays in reaching ignition once completed.

The House approved about \$2 billion for Stockpile Stewardship for FY2000, 12.1% below the request and 5.4% below the FY1999 level. Included in the recommendation are \$88.2 million in contractor travel and other reductions that are assumed to be this program's share of the \$180 million reduction recommended by the Committee for all DOE weapons activities. Nearly all of the reduction from the request would take place in the core stockpile stewardship activity, which the bill would fund at the FY1999 level. Within that activity, the House bill provides the ASCI effort a \$6.1 million increase over FY1999. The Committee argued that cost efficiencies could be achieved throughout the weapons complex that would permit these recommendations. The Inertial Confinement Fusion (ICF) activity would receive an additional \$10 million above the request and the NIF would be fully funded for FY2000. The House bill directs that \$10 million be made available to further high-average-power laser development. For the technology transfer and

education activities, the House recommended \$14 million compared to a request of \$52 million. The House argued that budget constraints make it necessary to concentrate available funds on the weapons mission.

In the report accompanying its recommendations, the House noted the security problems reported about the DOE weapons labs. In particular, it cited the report by the President's Foreign Intelligence Advisory Board that argued for a restructuring of the DOE national security programs as the only way to deal with those problems, which, the Board found, were very serious. The House has concluded that an independent agency will be needed. It argued that even a separate agency within DOE would not suffice because no significant staffing changes would take place. In order to ensure that action will take place, the House recommended a provision that would delay \$1 billion in obligations for DOE until after June 30, 2000, in order to give time for Congress "to craft careful, bipartisan legislation" addressing the problem. Provisions reorganization the weapons program into a semi-autonomous agency within DOE were included in the FY2000 Defense Authorization Act (S. 1059, P.L. 106-65), signed into law October 5, 1999.

The final appropriations bill provides \$2.252 billion for Stockpile Stewardship for FY2000, \$3.6 million above the request. The conferees directed DOE to reduce funding for weapons activities by \$64.8 million. It is likely that some of that reduction will be applied to the Stockpile Stewardship program, which makes up about 50% of the weapons activities budget. Therefore, the actual amount available for the program will probably be less than the \$2.252 billion. The conferees provided \$316 million for the ASCI program, \$25 million below the request. Also, the additional \$10 million appropriated by the House for high-average-power laser development remains in the final bill. The conference report contained language expressing strong disappointment about news that the NIF cost estimate has increased, and the conferees ordered DOE to submit a certified cost estimate to the Appropriations Committees by June 1, 2000. If that is not possible, the conferees directed DOE to submit a project termination cost estimate.

Nonproliferation and National Security Programs

The Administration's FY2000 request for these programs was \$747 million, about \$70 million over FY1999. The House bill included \$691 million funding, and the Senate bill \$822 million. The bill as passed appropriated \$745 million for nonproliferation and national security programs (which are included in the "Other Defense Activities" listed in **Table 6**).

Much of the requested increase was aimed at helping Russia and other former Soviet states deal with the cutbacks of their nuclear weapons activities. Among the programs are the Nuclear Cities Initiative (NCI), to help unemployed nuclear weapons designers find civilian jobs, and the Initiative for Proliferation Prevention (IPP), to help develop new non-defense technologies in the Former Soviet Union. NCI's budget would have been doubled to \$30 million and IPP received \$25 million in the FY2000 request. The bill as passed included \$7.5 million for NCI and \$22.5 million for IPP. For the Materials Protection, Control and Accounting (MPCA) program, aimed at improving security and accounting systems at Russian nuclear weapons facilities, the request was \$145 million, a \$5 million increase over FY1999. The bill as passed appropriated \$150 million.

Environmental Management

DOE's Environmental Management Program (EM) is responsible for cleaning up environmental contamination and disposing of radioactive waste at DOE nuclear sites. The FY2000 appropriation for the program totals \$6.32 billion, including \$189 million for the "privatization" of several DOE waste management projects, such as the solidification of high-level radioactive

waste at Hanford, Washington, and \$250 million for the uranium enrichment decontamination and decommissioning fund. The total EM appropriation is about \$35 million below the Administration's request but \$93 million above the FY1999 funding level.

The FY2000 EM budget is based on the program's accelerated cleanup strategy, which attempts to maximize the number of sites that can be completely cleaned up by the end of FY2006. DOE managers contend that substantial long-term savings can be gained by focusing on completing work at those sites, allowing the earliest possible termination of infrastructure costs. Major sites scheduled for completion during that period are included in the "Defense Facilities Closure Projects" account, for which about \$1 billion was provided in FY2000—about the same level as in FY1999. The largest facilities under that account are the Rocky Flats site in Colorado and the Fernald site in Ohio.

Nearly half of EM's FY2000 privatization funding request would go for Phase 1 of the Hanford Tank Waste Remediation System, consisting of a pilot vitrification plant that would turn liquid high-level waste into radioactive glass logs for eventual disposal. Other major privatized projects include a facility to treat "mixed" radioactive and hazardous waste at the Idaho National Engineering and Environmental Laboratory, and waste treatment, storage, and disposal facilities at Oak Ridge, Tennessee.

The EM privatization effort is intended to reduce costs by increasing competition for cleanup work and shifting a portion of project risks from the federal government to contractors. Profits to contractors would depend on their success in meeting project schedules and holding down costs; potentially, profits could be substantially higher or lower than under traditional DOE contracting arrangements.

In a typical non-privatized DOE project, a contractor would be hired to build and operate a facility with government funds. DOE would approve and pay all the contractor's costs, and then award the contractor a profit based on performance. Under the privatization initiative, a contractor would be expected to raise almost all funding for necessary facilities and equipment for a project. The contractor would recover that investment and earn a profit by charging previously negotiated fees to DOE for providing services under the contract, such as solidification of radioactive waste. The contractor could earn higher profits by reducing costs, but the contractor could lose money if project costs were higher than expected or the required services were not delivered.

For non-defense environmental management, the House recommended elimination of all funding—\$3.7 million—for the DOE National Low-Level Waste Program. The program provides technical assistance to states and interstate compacts in managing commercial low-level waste. "Over \$80,000,000 has been provided for the low-level waste program over the past two decades, and State expertise is now mature enough that Federal funding is no longer required," according to the House Committee report. The Conference Report specifies that \$595,000 be provided to the program in FY2000 for maintaining federal low-level waste data bases.

An additional \$10 million was provided for cleanup activities at DOE's uranium enrichment plants at Paducah, Kentucky, and Portsmouth, Ohio, which are currently leased to a private firm. Recent controversy has focused on environmental hazards posed by the plants, particularly contamination resulting from the past enrichment of reprocessed uranium at Paducah.

Civilian Nuclear Waste Disposal

DOE requested \$409 million for the civilian nuclear waste program in FY2000, an increase of \$51 million over the level provided for FY1999. Of that increase, \$39 million would have come

from unspent funds appropriated in FY1996 for an interim waste storage program that has yet to receive congressional authorization. Because the \$39 million has already been appropriated, the use of that funding reduced the program's FY2000 net appropriation request to \$370 million. The FY2000 Energy and Water Development bill provides \$352.5 million for the program but does not release the previously appropriated funding sought by DOE.

The Civilian Nuclear Waste Program is focused almost entirely on studying a proposed permanent underground repository for highly radioactive waste at Yucca Mountain, Nevada. DOE's budget justification contends that the \$409 million proposal for FY2000 is the minimum required to keep the waste disposal program on its current schedule. The major program efforts planned for FY2000 are completion of the final Environmental Impact Statement for the proposed Yucca Mountain repository, preparation of a site recommendation report to be submitted to the President in FY2001, and a license application to be sent to NRC in 2002. If any of those "critical near-term milestones" are missed, DOE says it might not be able to open the repository in 2010 as planned.

Although DOE did not receive its full request for the waste program, the final amount was substantially more than the level approved by the House. Citing "severe budget constraints," the House Appropriations Committee had voted to cut total appropriations for the waste program to \$281 million and directed DOE to "review all cost components to see what savings can be achieved in fiscal year 2000." The final appropriation includes \$240.5 million from the Nuclear Waste Fund, which consists of fees paid by nuclear utilities, and \$112 million from the defense nuclear waste disposal account.

The 2010 target for opening a permanent repository is 12 years later than a statutory deadline of January 31, 1998, for DOE to begin taking waste from nuclear plant sites. Nuclear utilities and state utility regulators, upset over DOE's failure to meet the 1998 disposal deadline, have won two federal court decisions upholding the Department's obligation to meet the deadline and to compensate utilities for any resulting damages. Utilities have also won several cases in the U.S. Court of Federal Claims, although specific damages have not yet been determined.

For FY1999, Congress provided \$4 million from general revenues to pay for research on treating high-level radioactive waste with advanced particle accelerators. Such treatment would be intended to transmute long-lived radioactive waste into shorter-lived isotopes. DOE did not request further funding for the effort in FY2000, but the energy and water bill provides \$9 million for the program under nuclear energy research and development.

DOE requested the restoration of funding for the State of Nevada to monitor the Yucca Mountain Project in FY2000, totaling \$12.3 million for the state and nearby units of local government. For FY1999, Congress rejected all but \$250,000 of DOE's nearly \$5 million request for funds for Nevada, because of concerns that the state was using the money to fight the waste program, while providing \$5.5 million to local governments. The Senate voted to provide \$10.1 million for Nevada and affected local governments in FY2000, but the House recommended no state and local funding. The conference agreement provides \$500,000 for DOE reimbursement of state oversight costs, and \$5.4 million for affected local governments.

Power Marketing Administrations

DOE's four Power Marketing Administrations (PMAs) developed out of the construction of dams and multi-purpose water projects during the 1930s that are operated by the Bureau of Reclamation and the Army Corps of Engineers. The original intention behind these projects was conservation and management of water resources, including irrigation, flood control, recreation and other objectives. However, many of these facilities generated electricity for project needs.

The PMAs were established to market the excess power; they are the Bonneville Power Administration (BPA), Southeastern (SEPA), Southwestern (SWPA), and Western Area Power Administration (WAPA).

The power is sold at wholesale to electric utilities and federal agencies “at the lowest possible rates ... consistent with sound business practice,” and priority on PMA power is extended to “preference customers,” which include municipal utilities, co-ops and other “public” bodies. The PMAs do not own the generating facilities, but they generally do own transmission facilities, except for Southeastern. The PMAs are responsible for covering their expenses and repaying debt and the federal investment in the generating facilities.

The 104th Congress debated sale of the PMAs and did, in 1995, authorize divestiture of one PMA, the Alaska Power Administration. Sale of the remaining PMAs has not since been an issue, pending decisions yet to be made about the treatment of public power in the broader context of electric utility restructuring.

BPA receives no annual appropriation. The Administration’s request for the PMAs for FY2000 was \$200 million, a reduction of 15.8% from the FY1999 appropriation. The savings stemmed from the Administration’s proposal that, beginning in FY2000, customers of SEPA, WAPA, and SWPA would be responsible for making their own power purchases and transmission arrangements from any suppliers other than the PMA to satisfy their needs. Under the Purchase Power and Wheeling Program (PPW), the PMAs have purchased electricity and transmission capability, which is repaid by PMA customers, to supplement federal generation. The premise behind the proposed elimination of the PPW program was that deregulation should make it less expensive and less complicated for PMA customers to make these arrangements. Another possible reason is that the money appropriated to the PMAs under PPW is repaid to the Treasury rather than to DOE. This means that the PPW appropriation is fully scored against the caps on discretionary domestic spending with which DOE must comply. Bipartisan groups in both the House and Senate found this feature of the budget request controversial.

The Senate passed the bill with the PPW program maintained and more than \$80 million restored. In its report, the Senate Appropriations Committee said it “disagrees” with the Department’s proposal. However, the House supported the Administration proposal and requested levels. The Senate position prevailed in conference and in the enacted bill.

Title IV: Independent Agencies

Independent agencies that receive funding from the Energy and Water Development bill include the Nuclear Regulatory Commission (NRC), the Tennessee Valley Authority (TVA), and the Appalachian Regional Commission. TVA, which pays for most of its activities with electricity revenues, requested only a small congressional appropriation for FY2000 for its land management activities.

Table 7. Energy and Water Development Appropriations. Title IV: Independent Agencies

(in millions of dollars)

Program	FY1998	FY1999	FY2000 Request	H.R. 2605	S. 1186	P.L. 106-60
Appalachian Regional Commission	170.0	66.4	66.4	60.0	71.4	66.4
Nuclear Regulatory Commission		465.0	465.4	455.4	465.4	465.0

Program	FY1998	FY1999	FY2000 Request	H.R. 2605	S. 1186	P.L. 106-60
(Revenues) Net NRC	472.8 (454.4) 18.0	(444.8) 20.2	(442.4) 23.0	(432.4) 23.0	(442.4) 23.0	(442.0) 23.0
Tennessee Valley Authority	70.0	54.0	7.0	0	7.0	0
Defense Nuclear Facilities Safety Board	17.0	16.5	17.5	16.5	17.5	17.0
Nuclear Waste Technical Review Board	2.6	2.6	3.1	2.6	3.1	2.6
Denali Commission Rescission				-18.0		20.0
Total	277.6	159.7	117.0	84.1	147.0	129.0

Key Policy Issues—Independent Agencies

Tennessee Valley Authority

The Tennessee Valley Authority (TVA) was established as a federal corporation in 1933 to bring electricity and development to a region encompassing all of Tennessee and portions of Kentucky, Virginia, North Carolina, Georgia, Alabama, and Mississippi. The agency's electric power operations are self-supporting and receive no appropriation.

TVA is also responsible for certain non-power functions intended to further the agency's mission to develop and conserve the region's natural resources. These include flood control, recreation, navigation, and an Environmental Research Center. TVA operates more than 50 dams and reservoirs and a 170,000-acre recreational area in Kentucky and Tennessee, Land Between the Lakes (LBL). These non-power programs represent roughly 2% of TVA's total budget and have been supported by congressional appropriation. However, critics of TVA have argued in recent years that TVA should absorb the cost for these programs and could do so with the savings that could be realized from more efficient operation.

In recent years, the congressional appropriation for the TVA non-power programs has been declining. The appropriation for the non-power programs was \$106 million for FY1997. The conferees on the FY1998 Energy and Water Appropriations bill recommended an appropriation of \$70 million, but stipulated that TVA would thereafter absorb the entire cost of these programs through "internally generated revenues and savings." Nonetheless, the Administration requested \$77 million for TVA non-power programs for FY1999. The House held to the intent of the prior year's conference report while the Senate proposed appropriating \$70 million again to TVA for FY1999. The House position prevailed in the enacted Energy and Water Appropriations (P.L. 105-245).

However, shortly before the end of the 105th Congress conferees restored \$50 million to TVA for the non-power programs in an omnibus spending bill (P.L. 105-277). The conferees also authorized TVA to refinance \$3.2 billion of its debt to the Federal Financing Bank (FFB) without prepayment penalty. It was expected that the refinancing would save TVA \$100 million annually. This, it was further argued, should give TVA sufficient annual cost savings to support the non-power programs without further appropriations. The legislation also stipulated that if LBL were

not provided \$7 million by Congress in future annual appropriations, administration of LBL would be transferred from TVA to the Forest Service.

In line with these enactments in the 105th Congress, the Administration requested only \$7 million specifically for the operation of LBL for FY2000. The Senate concurred; the House did not. House Appropriations recommended no funding for TVA, commenting in the committee report that “final year appropriations for the non-power programs” were provided in FY1999. The conferees authorized TVA to spend \$3 million from previously appropriated funds for administration of TVA, pending transfer of LBL to the Forest Service, and for expenses relating to the transition in stewardship.

Nuclear Regulatory Commission

The Nuclear Regulatory Commission (NRC) requested \$471 million for FY2000, an increase of \$1.6 million over FY 1999. Major activities conducted by NRC include safety regulation of commercial nuclear reactors, licensing of nuclear waste facilities, and oversight of nuclear materials users. The funding request also included about \$6 million for the NRC inspector general’s office. The conference report provides nearly all of the NRC request, although the funding request for the inspector general was cut by \$1 million.

The House and Senate Appropriations Committees sharply criticized NRC last year for allegedly failing to overhaul its regulatory system in line with improvements in nuclear industry safety. The committees contended, among other problems, that NRC’s regional offices were inconsistent with one another, that NRC was inappropriately interfering with nuclear plant management, and that numerous NRC review processes were outdated and unnecessary. NRC’s FY2000 budget justification asserted that sufficient funding was included to address those concerns

The Senate expressed satisfaction with NRC’s response to last year’s criticism and granted the agency’s full request for FY2000. “The Commission as a whole, the five Commissioners individually, and the Commission staff deserve a great deal of credit for the Commission’s accomplishments in the last year,” the Committee report says. The House echoed that statement, but, on the grounds that the changes at NRC would result in reduced budget requirements, it cut NRC’s request by \$10 million, a cut that was reversed in conference.

To ensure that NRC’s budget will continue to be mostly offset by fees on nuclear power plants and other licensed entities, the FY2000 Energy and Water bill includes a one-year extension of the agency’s current fee-collection authority. The nuclear power industry has long contended that the existing fee structure requires nuclear reactor owners to pay for a number of NRC programs, such as foreign nuclear safety efforts, from which they do not directly benefit. As in the past, DOE is to reimburse NRC for oversight of DOE’s high-level nuclear waste disposal program.

For Additional Reading

CRS Issue Briefs

CRS Issue Brief IB92059. *Civilian Nuclear Waste Disposal.*

CRS Issue Brief IB97031. *Renewable Energy: Key to Sustainable Energy Supply?*

CRS Issue Brief IB91039. *The DOE Fusion Energy Science Program.*

CRS Issue Brief IB10036. *Restructuring DOE and Its Laboratories: Issues in the 106th Congress.*

CRS Reports

CRS Report RL30307. Department of Energy Programs: Programs and Reorganization Proposals.

CRS Report 97-464. *The National Ignition Facility and Stockpile Stewardship.*

CRS Report 96-212. *Civilian Nuclear Spent Fuel Temporary Storage Options.*

CRS Report RL30054. *Research and Development Budget of the Department of Energy for FY2000: Description and Analysis.*

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